Section 5.1: Water Supply Reliability — Wholesale Water Supply

The reliability of Mountain View's water supply from each wholesale sources is described below and corresponding data is included in Tables 30 through 32.

Reliability of San Francisco Public Utilities Commission Water Supply

The SFPUC can meet the water demands of its retail and wholesale customers under most conditions. However, the SFPUC can reduce water deliveries during droughts, emergencies, and scheduled maintenance activities. The Interim Water Shortage Allocation Plan (IWSAP) between the SFPUC and its wholesale customers, including the City of Mountain View, provides the SFPUC with the ability to reduce water supply by up to 20% on an average, system-wide basis.

To ensure long-term water reliability is maintained, the SFPUC is undertaking a major water service improvement program or WSIP. The WSIP will deliver numerous capital improvements throughout the regional water system aimed at enhancing its water service mission of providing high quality water to its customers in a reliable, affordable and environmentally sustainable manner.

Reliability of Santa Clara Valley Water District Supply

The SCVWD can meet the water demand of its retail customers; however, like the SFPUC, the SCVWD can reduce water deliveries during droughts, emergencies and for scheduled maintenance activities by up to 5%. The SCVWD is also in the process of developing and implementing a program to provide long-term water reliability through major systems renovations and water treatment process upgrades.

The SCVWD's long-term planning goal is ensure in any given year there is never a shortage greater than 5% of the conservation demand. IWRP 2003 found shortages up to 5% could be managed through demand reduction programs and voluntary cutbacks without significant economic losses to the community. Based on the long term planning and modeling analysis performed by the SCVWD in the development of the UWMP 2005, countywide demands can reliably be met if additional investments beyond the IWRP 2003 "no regrets" scenario are undertaken.

Table 30: Supply Reliability – AF/Y

		Multiple Dry Water Years			
Normal Water Year	Single Dry Water Year	Year 1	Year 2	Year 3	Year 4
SFPUC	11582	11582	9822	9822	9822
SCVWD Treated	1254	1254	1254	1254	1254
Total Imported	12736	12736	10376	10376	10376
Percent of Normal	91	91	80	80	80

Table 31: Basis of Water Year Data

Water Year Type	Historic Sequence
Normal Water Year	2001 (Base Year)
Single-Dry Water Year SFPUC	1977
Multiple-Dry Water Years SFPUC	1987, 1988, 1989, 1990, 1991, 1992
Single-Dry Water Year SCVWD	1977
Multiple-Dry Water Years SCVWD	1987, 1988, 1989, 1990, 1991, 1992

Table 32 below describes factors resulting in the inconsistency in supply. Mountain View, like all California Cities, experiences variations in climactic conditions (drought versus normal or wet conditions), which in turn causes variability in water supply conditions.

Table 32: Factors resulting in inconsistency of supply

Name of supply	Legal	Environmental	Water Quality	Climatic (Drought)
SFPUC				X
SCVWD Treated Water Supply				X
SCVWD Groundwater				X

Section 5.2: Water Supply Reliability — Water Quality Impacts On Reliability

The City of Mountain View provides high quality water, meeting all current State and Federal water quality standards, through both of its wholesale sources and groundwater wells. Having three distinct sources of water provides Mountain View with the flexibility to augment supply if a temporary water quality issue arises in one supply source and no changes in water supply are anticipated.

Table 33: Current & Projected Water Supply Changes Due to Water Quality (Percentage)

Water Source	2005	2010	2015	2020	2025	2030
SFPUC	0	0	0	0	0	0
SCVWD	0	0	0	0	0	0
SCVWD Groundwater	0	0	0	0	0	0

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Section 5.3: Water Supply Reliability — Minimum Supply For Next Three Years

This section requires Mountain View to detail the absolute minimum supply of water the City will receive from its wholesale sources based on the driest historical period for each source.

The SFPUC and the SCVWD determined their driest period was 1987-1992. As discussed earlier in this plan, the SFPUC derives the majority of their water from the Sierra Nevada Mountains, while the SCVWD derives their supply from several sources including water collections and retention reservoirs located throughout Santa Clara County.

Both SCVWD and SFPUC are involved in maintaining reliability of the water supply. Both agencies have studied facilities and have invested and planned projects to maintain the reliability of the water supply. Mountain View has made similar investments by construction of new wells, reservoir and other capital pipeline projects.

Based on the information provided by the wholesale agencies, the City's absolute minimum supply is 20% below normal. However, as discussed in the previous section, the City can utilize its groundwater wells to close the supply gap if needed. The data provided by the SFPUC and SCVWD is included in Table 34 below.

Table 34: Three-Year Estimated Minimum Water Supply – AF/Y

Source	1987	1988	1989	Normal (2001)
SFPUC	11,582	9,821	9,821	12,606
SCVWD	1,254	1,254	1,254	1,302
TOTAL	**12,836**	**11,075**	**11,075**	**13,908**

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Section 6: Water Conservation Demand Management Measure Implementation

The City of Mountain View is committed to reducing water demand by implementing conservation programs. Through these programs, the city estimates it can reduce water demand by approximately 5 to 8 percent over the next 25 years. Several of these programs are discussed below. Detailed data on all of the water conservation programs implemented by the City are included in Appendix F.

Conservation Program Overview

Metering, Rates and Water-Conserving Guidelines: The City meters all water connections and bills customers using an increasing block (tiered) rate structure. The tiered rate structure provides an economic incentive to conserve water as the base water rate increases with water consumption. The City's Community Development Department also provides private developers and property owners with water-efficient landscape guidelines and a list of water-conserving plants.

Residential Water Surveys: Mountain View, through the SCVWD, conducts audits of single and multi family residences and notifies residents of high water usage to help identify water loss due to leaking or defective pipes. Mountain View also encourages all residential water users to participate in the SCVWD's Water Wise House Call Survey program by advertising in the local papers and providing information on the City's website and in Mountain View's annual water quality report. On average, approximately 600 residential water audits are performed each year.

Turf Audits: The City works with the SCVWD to send literature, perform free site evaluations, and conduct turf audits for business owners with more than one acre of landscaping. The program uses satellite technology and computer imaging to create water budgets for landscaped areas, providing information on seasonal usage, watering techniques, and plant types to conserve water. An average of 10 turf audits are performed every year.

Plumbing Retrofits: The City of Mountain View, through the SCVWD, provides economic incentives for residential and business owners who retrofit plumbing and purchase Ultra-Low Flush Toilets (ULFT). The SCVWD provides low-flow showerheads, kitchen and bath faucet aerators and toilet leak detection tablets at no cost to Mountain View water customers.

They also provide economic incentives for the purchase of high efficiency toilets (HETs), which use 20% less water than ultra-low flush toilets. For example, in the last five years, the City has distributed over 1,300 low-flow showerheads.

Washing Machine Incentive Program: The SCVWD provides up to $150 rebates to Mountain View's residential water customers for the purchase of high-efficiency washing machines and up to $350 for commercial machines. Over 1,200 washing machine rebates have been issued since 2001.

Conservation Program Implementation

The SCVWD administers most the water retailer conservation programs for the City of Mountain View and other public and private water utilities in Santa Clara County. Both the City of Mountain View and the SCVWD are members of the California Urban Water Conservation Council (CUWCC), and have agreed to make a good faith effort to implement all the CUWCC's urban water conservation Best Management Practices (BMPs), including the water conservation measures discussed earlier in this section. The cost of implementing the water conservation measures is bundled into the wholesale water rates from the SCVWD.

BMPs are functionally equivalent to the Demand Management Measures identified in the Urban Water Management Plan Act and Mountain View submits annual reports to the CUWCC identifying implementation activities on every BMP. To satisfy this section of the UWMP, copies of the CUWCC annual reports from 2001 to 2005 are included as Appendix F. A list of the Mountain View's water retailer BMP's follows:

Best Management Practices

- Single-family and multi-family water-use surveys
- Residential plumbing retrofits
- Water audits and leak detection/repair
- Metered water connections with associated per-unit water use fees
- Large landscape audits
- High efficiency washing machine rebates
- Public information programs
- School Education programs
- Conservation programs for commercial/industrial accounts
- Conservation pricing
- Employment of a conservation coordinator
- Water waste prohibitions
- Residential ultra-low flush toilet replacement programs

Section 7.1: Water Shortage Contingency Plan

To address potential water supply shortages resulting from drought, natural disaster or wholesale water supply system failures, Mountain View has developed a Water Shortage Contingency Plan. As defined by the Urban Water Management Plan Act, this contingency plan details four water supply reduction scenarios: 10, 25, 40 and 50 percent. Each stage of action is discussed in detail below.

Water Shortage Contingency Plan Stages of Action

The City will consider implementing each stage of the Water Shortage Contingency Plan when Mountain View's water supply is reduced by a specific level: 10%, 20%, 40% and 50%. Each stage of action in the Water Shortage Contingency Plan is discussed on the following pages and is also detailed on Table 35 at the end of this section.

Implementation of the plan will be contingent upon adoption of draft Water Conservation Ordinances, Appendix G, by the City Council. A constant factor in each water supply reduction scenario is the enforcement of five existing water prohibitions currently incorporated into Mountain View's City Code. These prohibitions, which are currently enforced on a complaint basis, are:

1. Preventing water runoff on sidewalks.
2. Wasting water due to broken or defective plumbing, sprinkler, watering or irrigation systems.
3. Serving water in restaurants, except on request.
4. Installing single-pass cooling systems on new construction.
5. Using hoses without an automatic shut-off device for cleaning paved surfaces.

Stage 1: 10 Percent Water Supply Reduction

A 10 percent water supply reduction scenario will intensify existing conservation programs, focusing attention on public information and outreach. Irrigation for City parks and roadway landscaping would be reduced by 15 percent.

Mountain View will also add a prohibition on washing cars, buses, boats, or other vehicles and equipment using a hose without an automatic shut-off device.

Stage 2: 25 Percent Water Supply Reduction

A 25 percent water supply reduction program implements six additional water use prohibitions, focusing on further reducing irrigation and ornamental water use. Attention would be focused on water audits of properties having significant landscape irrigation needs. These property owners or managers would be provided information on water budgeting and weather based irrigation use. City park and roadway landscape irrigation would also be reduced by 33 percent. The six additional water use prohibitions are:

- Cleaning any paved or hard surface with water.
- Operating decorative fountains.
- Using drinking water for construction purposes except where reclaimed water is not available.
- Irrigating landscape from 9:00 a.m. to 3:00 p.m. (9:00 a.m. to 6:00 p.m. during daylight savings time).
- Draining or refilling swimming pools except for health and safety reasons.
- Using an average of more than 750 gallons per day (gpd) in a single-family residence in two consecutive billing periods.

Stage 3: 40 Percent Water Supply Reduction

City park and roadway landscape irrigation will be reduced by a total of 50% and this scenario will also implement four additional prohibitions to the 25 percent program.

The four new water use prohibitions are:

- Using an average of more than 620 gpd in a single-family residence in two consecutive billing periods.
- Deferring landscape (excluding trees) installation at new commercial construction.
- Washing vehicles, except in automatic car washes using recycled water.
- Filling new swimming pools.

The City also has the option of implementing two optional water use prohibitions under the 40% water reduction scenario. These are:

- Possible prohibition of all turf irrigation.
- Possible requirement that all homes sold in the City be retrofitted with Ultra low flush toilets (ULFTs).

Stage 4: 50 Percent Water Supply Reduction

Under a 50 percent water supply reduction program, the City will consider prohibiting any new development and limiting single-family water use to 500 GPD in two consecutive billing periods. In addition, park and roadway landscape irrigation would be reduced by a total of 60 percent from pre-drought levels.

Enforcement of all water use prohibitions under the previous water reduction scenarios would be intensified and penalties would be assessed for noncompliance. Penalties would be determined at the time a 50% reduction program is considered.

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Table 35: Mountain View's Water Shortage Contingency Plan

	Current Program	STAGE 1 10 Percent Program	STAGE 2 25 Percent Program	STAGE 3 40 Percent Program	STAGE 4 50 Percent Program
Prohibition					
Cleaning sidewalks, driveways, patios, parking lots or other paved or hard-surfaced areas without a positive automatic shutoff device.	X	X	X	X	X
Flooding and water runoff on sidewalks.	X	X	X	X	X
Washing cars, buses, boats, trailers or other vehicles without a positive automatic shutdown valve on the end of the hose.	X	X	X	X	X
Wasting water due to broken or defective plumbing, sprinkler, watering or irrigation systems.	X	X	X	X	X
Serving water in restaurants, except upon request.	X	X	X	X	X
Single-pass cooling systems on new construction.	X	X	X	X	X
Operating decorative fountains.			X	X	X
Using drinking water for construction purposes, except where reclaimed water is unavailable.			X	X	X
Irrigating landscape from 9:00 a.m. to 3:00 p.m. (9:00 a.m. to 6:00 p.m. during daylight savings time).			X	X	X
Flushing hydrants, except for public health or safety.			X	X	X
Draining or refilling of swimming pools except for health and safety reasons.			X	X	X
Use of potable water by a single-family residence in excess of an average of 750 gallons per day in two consecutive billing periods.			X	X	X
Deferred landscaping of new commercial construction; however, trees may be planted at the discretion of the property owner.			Voluntary	X	X
Use of potable water by a single-family residence in excess of an average of 620 gallons per day in two consecutive billing periods.				X	X
Washing cars, except in automatic car washes using recycled water.				X	X
Filling new swimming pools.				X	X
Use of potable water for irrigation.				Considered	X
Sale or resale of a single-family residence or commercial building with toilets using greater than 1.6 gallons of water per flush or shower heads using greater than 2 gallons of water per minute.				Considered	Considered
Operation of a pool without a cover.					X
Refilling existing private swimming pools.					X
Use of potable water by a single-family residence in excess of an average of 500 gallons per day in two consecutive billing periods.					X
New hookup moratorium.					Considered

Water Shortage Contingency Plan Stages of Action Other Elements:	Current Program	STAGE 1 10 Percent Program	STAGE 2 25 Percent Program	STAGE 3 40 Percent Program	STAGE 4 50 Percent Program
Water Savings in City Parks under the different Stages		15 Percent	33 Percent	50 Percent	60 Percent
Enforcement		Complaint Basis*	Complaint Basis*	Active Patrol**	Active Patrol**
<u>Outreach:</u>					
Landscape water conservation requirements for new commercial, industrial, institutional, governmental and multi-family developments (prescriptive approach).	X	X	X	X	X
Public information program.	X	X	X	X	X
School education.	X	X	X	X	X
Showerhead retrofit program.	X	X	X	X	X
Ultra-low-flush toilet retrofit program.	X	X	X	X	X
Full-time Water Conservation Coordinator.	10% Position	10% Position	50% Position	75% Position	100% Position
Low-water-use washing machine incentive program.	X	X	X	X	X
Quarterly "View" articles, annual water quality report article and web site updates.			X	X	X
<u>Monitored Water Usage:</u>					
Metering of all connections.	X	X	X	X	X
Enforce State requirements for ultra-low-flush toilets in new construction.			X	X	X
Residential water audits.			X	X	X
Large commercial and multi-family user audits.			X	X	X
Turf audits for irrigators over one acre.				X	X
Distribution system water audits, leak detection and repair.				X	X
Allocation system for all residents and businesses.					Possible
<u>Cost Incentives:</u>					
Conservation pricing/inverted rates.	X	X	X	X	X
Add additional water rate tier to current three-tiered structure.				X	X
Penalties assessed for noncompliance.				X	X

***Complaint basis enforcement:**

- Two education/warning visits or phone calls from Water Division personnel.
- Third warning visit from Police/Code Enforcement; fourth complaint or blatant violation cited by Police, with possible flow restriction.
- Upper-use violation receives one warning letter in the first billing period if the limit is exceeded; fine issued in second billing period.

**** Active Patrol enforcement:**

- City patrolled by Water Division personnel and Code Enforcement.
- Citation after second warning; monetary fines assessed and possible flow restriction.

Water Supply Shortage Conditions

A reduction in Mountain View's water supply could be the result of a number of factors including drought, natural disaster or water supply system failure. As Mountain View receives the majority of it's water from the SFPUC, any supply reduction from this water source will have the greatest effect on the City. However, large-scale water shortages, 40% and 50%, may also be attributed to reductions in Mountain View's other supplies, including the SCVWD wholesale supply and groundwater. A potential water supply shortage is detailed in Table 36 below.

Table 36: Potential Water Supply Shortage Scenario

Stage	Water Supply Conditions	Percent Shortage
1	Reduction in supply from the SFPUC.	10%
2	Further reduction in supply from the SFPUC.	25%
3	Reduction in supply from both the SFPUC and SCVWD.	40%
4	Reduction in supply from both agencies and SCVWD restrictions on groundwater pumping.	50%

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Section 7.2: Water Shortage Contingency Plan Use Monitoring Procedures

In order to measure the effectiveness of the Contingency Plan water use reductions, staff will analyze consumption trends and monitor daily wholesale water use and sewer discharge data. Based on this analysis, field staff will be dispatched to respond to and inspect water-wasting activities. Table 37 below summarizes these monitoring mechanisms and how they will be used.

Table 37: Water Use Monitoring Mechanisms

Mechanisms for determining actual reductions	**Summary of Data Available**
Monitoring daily production data Conduct weekly oversight of data.	Daily meter reads of water supply (SFPUC & SCVWD) and wells.
Monitoring PARWCQP monthly discharges data	Evaluate sewer discharge data for correlations to reduction in water consumption; recycled water meter readings (in future).
Conservation ordinance enforcement	Field staff to enforce water waste activities such as malfunctioning irrigation systems or other waste activities as described in conser-vation ordinances.
Hand held meter reading device flags high usage	Hand held meters retrieve data by customer account type. The readers flag high usage accounts and the customer is notified of high water use.
Bi-monthly consumption report comparisons	Customized Utility billing system reports that indicate consumption by account type or by meter. The reports can be compared at the completion of the billing cycle (bi-monthly for most accounts).
Parks Division monthly meter reads	Coordinate interdepartmental data share of monthly irrigation meter reads.

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Section 7.3: Analysis of Revenue Impacts of Reduced Sales During Water Shortages

Mountain View's current water rates cover the cost of wholesale water purchases, staffing to operate the City's water system, ongoing maintenance and major capital replacement and improvement projects. Water rates are composed of a flat fee and a per unit fee for water consumed. Water rates are currently set to fully recover ongoing annual costs and a base level of annual capital improvement projects and reserves.

If water supply is reduced, water consumption will also be reduced and City water fund operating revenues will decline. Table 38 on the following page shows the revenue impacts of a water shortage at a 10%, 25%, 40% and 50% water supply reduction. Revenue reductions shown in this table do not have a 1:1 ratio as Mountain View has a tiered rate structure where the water rate increases with increased consumption. If water supply is reduced, water use reductions would first come from the highest tier, causing the percentage of revenue reduction to exceed the water supply reduction.

In the event of a water reduction, City staff will consider ways to correct the revenue shortfall depending on the severity of the water shortage and the City's ability to recover both operationally and financially. Actions the City will consider include adjusting the water rate structure and implementing water use surcharges. Operational expenditure reductions may also be needed, including hiring freezes, use of salary savings from vacant positions, use of reserve funds, deferring capital projects, and reducing staff.

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Table 38: Water Supply Reduction Revenue Impacts

	STAGE 1 10 Percent Program	STAGE 2 25 Percent Program	STAGE 3 40 Percent Program	STAGE 4 50 Percent Program
Actions and Conditions that Impact Revenues:				
Reduced Water sales (based on average annual water revenue of $13,700,000)	<$2,100,000>	<$4,400,000>	<$6,500,000>	<$9,100,000>
Penalty assessments for noncompliance	Negligible	Negligible	$15,000	$30,000
Monetary incentive for automated billing	Negligible	<$150,000>	<$150,000>	<$150,000>
Actions and Conditions that Impact Expenditures:				
Reduction in water supply costs (based on total water supply of 5,800,000 units annually)	<$656,000>	<$1,640,000>	<$2,300,000>	<$3,300,000>
Treatment expense	No Change	<$7,500>	<$20,000>	<25,000>
Utility expense (Pumping, gas and electric)	No Change	<$25,000>	<$40,000>	<$50,000>
Increased Code Enforcement expenses	No Change	No Change	$100,000	$200,000
O&M costs (Primarily mailing and advertising costs to encourage conservation)	No Change	$10,000	$20,000	$25,000
Proposed Measures to Overcome Revenue Impacts:				
Add additional rate tier		X	X	X
Monetary incentives to encourage automated billing		X	X	X
Monthly billing (increase interest earnings)			X	X
Implement a one-time emergency surcharge			X	X
Develop new rate structure with fixed costs covered by flat rate			X	X
Borrow funds – loan/bond				X
Proposed Measures to Overcome Expenditure Impacts:				
Moratorium on new hires/ Use savings from vacant Water Fund positions		X	X	X
Consider outsourced utility billing			X	X
Consider defer capital improvement projects		X	X	X
Consider use of reserves for short-term funding		X	X	X
Consider reduce staffing		X	X	X
Moratorium on new connections (Mandated in the Water Conservation Ordinance)				X

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Section 8: Catastrophic Supply Interruption Plan

In Mountain View, a catastrophic water emergency is a loss of water supply from Mountain View's wholesale water sources due to a severe earthquake or other major disaster. For example, a severe earthquake on the San Andreas or Hayward fault could cause SFPUC deliveries to be compromised for up to sixty days, leading to a supply reduction of up to 90 percent. Earthquakes along these or other faults may also cause a supply disruption from the City's SCVWD source, which represents 10% of the City's water supply.

To help mitigate the effects of such events, the City has prepared a water utility sub-chapter for the City's Emergency Response Plan. This plan is a confidential document prepared in accordance with the Federal Bioterrorism Act and Department of Homeland Security guidelines. Based on general information in the plan and depending on the type and severity of an emergency, the City will take corrective measures. These measures include isolating water storage reservoirs, isolating portions of the water system or deploying emergency generators to operate groundwater wells. In an emergency situation, the City will still have the ability to provide a minimum amount of water to customers for life safety and sanitary provisions. Table 39 below discusses the general actions to be taken following a major disaster.

Table 39: Preparation Actions for a Catastrophe

Possible Catastrophic Event	Summary of Actions
Earthquake	Isolate water storage reservoirs and activate groundwater wells
Regional Power Outage	Deploy and activate portable generators
Water Quality event	Isolate portions of the system affected by the event

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Section 9: Wastewater

The City of Mountain View is a partner in the Palo Alto Regional Water Quality Control Plant (RWQCP), which treats all of Mountain View's wastewater. The RWQCP provides primary, secondary, and tertiary treatment of all wastewater to allow the treated water to be discharged into the San Francisco Bay. All of the RWQCP's treated wastewater meets California Health and Safety Codes.

The RWQCP has a 40.0 million gallon per day (MGD) (122.8 AF/Day) average annual treatment capacity, which translates to 15.1 MGD (46.3 AF/Day) average annual wastewater capacity for the City of Mountain View. The RWQCP currently treats an average of 8.4 MGD (25.8 AF/Day) of Mountain View's wastewater. Table 40 below describes collection and treatment of wastewater from the City of Mountain View. While water consumption decreased between 2000 and 2005, wastewater collection increased due to groundwater infiltrations resulting from increased groundwater levels. The City is evaluating the extent of the infiltration and methods to diminish it.

The treated water also meets all standards for use as recycled water. Mountain View plans to construct a recycled water system, in cooperation with the RWQCP and the City of Palo Alto, to utilize this resource. The plan to construct the recycled water system is discussed in Section 10.

Table 40: Wastewater Collection and Treatment – MGD & AF/Y

	2000	2005	2010	2015	2020	2025	2030
Wastewater collected (MGD)	8.0	8.4	9.5	10	10.5	11	11.5
Wastewater treated (MGD)	8.0	8.4	9.5	10	10.5	11	11.5
Volume of treated water meeting recycled water quality (MGD)	8.0	8.4	9.5	10	10.5	11	11.5
AF/Day Conversion	23.4	25.8	29.2	30.7	32.2	33.8	35.3
AF/Y	**8,889**	**9,417**	**10,658**	**11,206**	**11,753**	**12,337**	**12,884**

Note: The acre-feet conversion is presented for comparison with water demands. Wastewater generation rates typically equal 70 to 80 percent of potable water consumption.

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Section 10: Recycled Water

The City of Mountain View is working collaboratively with the City of Palo Alto and the Palo Alto Regional Water Quality Control Plant (RWQCP) on a project to supply recycled water, for landscape irrigation purposes, to Mountain View's Shoreline Regional Park and Golf Links, and the North Bayshore Area, home to many of Mountain View's major employers. A map of the recycled water project's service area is included as Figure 4 at the end of this section.

Project Cost

The estimated total cost of the recycled water project is approximately $16 million. Project costs will be apportioned between the City of Mountain View, Palo Alto and the RWQCP with Mountain View's share of the project cost being approximately $8 million. Mountain View has also applied for and received a State grant in the amount of $3.8 million to offset construction costs.

Participating Agencies

The Cities of Mountain View, Palo Alto and the RWQCP are working together to design and construct the recycled water project and are also working with the SCVWD to address concerns regarding potential impacts of recycled water on certain types of landscape material, such as redwood trees. Table 41 on the following page lists all the agencies involved with this project and their role.

Table 41: Recycled Water Project Participating Agencies

Participating Agencies	Agency Name	Role in Project Development
Water agencies	City of Mountain View	Partner in project planning, design and construction.
	City of Palo Alto	Partner in project planning, design and construction.
	Santa Clara Valley Water District	Assisting with the development of the recycled water best management practices for landscape irrigation.
Wastewater agencies	Regional Water Quality Control Plant	Operator of the regional wastewater plant and partner in the recycled water project's planning, design and construction.

Recycled Water Project Milestones

- In October 2004, met with North Bayshore Community for community outreach and adopted a recycled water ordinance in the City of Mountain View.
- In June 2005, $3.8 million in grant funding received.
- In July 2005, consultant selected for project design.
- By January 2006, approve system plans and specifications. Prepare bid documents.
- By April 2006, begin construction.
- By October 2007, complete system construction and begin delivery of recycled water.

Projected Recycled Water Use

The following table details Mountain View's projected use of recycled water in five, ten, twenty and twenty five years. At full capacity, the system could offset Mountain View's potable water use by up to 10%. However, the actual usage of recycled water will be dependant on the impact of recycled water on landscape. Recycled water has an inherently high salt content that may impact certain plant species, such as redwood trees found throughout the North Bayshore Area. Currently, there is no funding currently available to install advanced treatment processes to remove the salt content. Although the City is working with the SCVWD to identify ways to reduce the effect of recycled water on landscaping, it is unclear how the salt content will affect ultimate irrigation use.

Table 42: Recycled Water Uses – Potential – AF/Y

User type	Treatment Level	2010	2015	2020	2025	2030
Landscape	Tertiary	900	1,200	1,800	1,800	1,800
TOTAL		**900**	**1,200**	**1,800**	**1,800**	**1,800**

Table 43 below details recycled water production compared to the effective offset of potable water use. The offset is not 1:1 as recycled water must be applied at a high rate to landscapes to achieve the same level of absorption. This is due, in part, to the high salt content discussed above.

Table 43: Effective Offset of Potable Water Use – AF/Y

	2010	2015	2020	2025	2030
Recycled Water Production	900	1,200	1,800	1,800	1,800
Estimated Potable Water Offset	600	900	1,200	1,200	1,200

Recycled Water System Expansion

While increasing distribution beyond the Mountain View Recycled Water Project area is not planned at this time, Mountain View is exploring other regional options, including working with the Santa Clara Valley Water District for groundwater recharge and extending the proposed system to the City of Sunnyvale.

Methods to Encourage Recycled Water Use

The Mountain View City Council approved a mandatory recycled water use Ordinance in October of 2004 requiring recycled water for irrigation use in the North Bayshore Area (Article V, Chapter 35 of the Mountain View City Code).

This ordinance specifies conditions where recycled water must be used, appeal procedures and penalties for non-compliance. Penalties include discontinuance of potable water service and a 50% surcharge for the use of potable water. Once the recycled water system is operational, the rate for recycled water will be less than the fresh water rate to further encourage its use. A copy of the Recycled Water Ordinance is attached as Appendix H.

Table 44: Methods to Encourage Recycled Water Use

Actions	AF/Y of Recycled Water Use Projected from Proposed Action				
	2,010	2,015	2,020	2,025	2,030
Reduced Recycled Water Rate	855	1,140	1,710	1,710	1,710
Fresh Water Use Surcharge	45	60	90	90	90
TOTAL	**900**	**1,200**	**1,800**	**1,800**	**1,800**

FIGURE 4

PROPOSED RECYCLED WATER SUPPLY PIPELINE

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